WEEDS TREES & TURF

ONE DOLLAR • DECEMBER 1976

Leaders speak out...

THE GREEN INDUSTRY VIEWS ITSELF

BEARD COLLECTION

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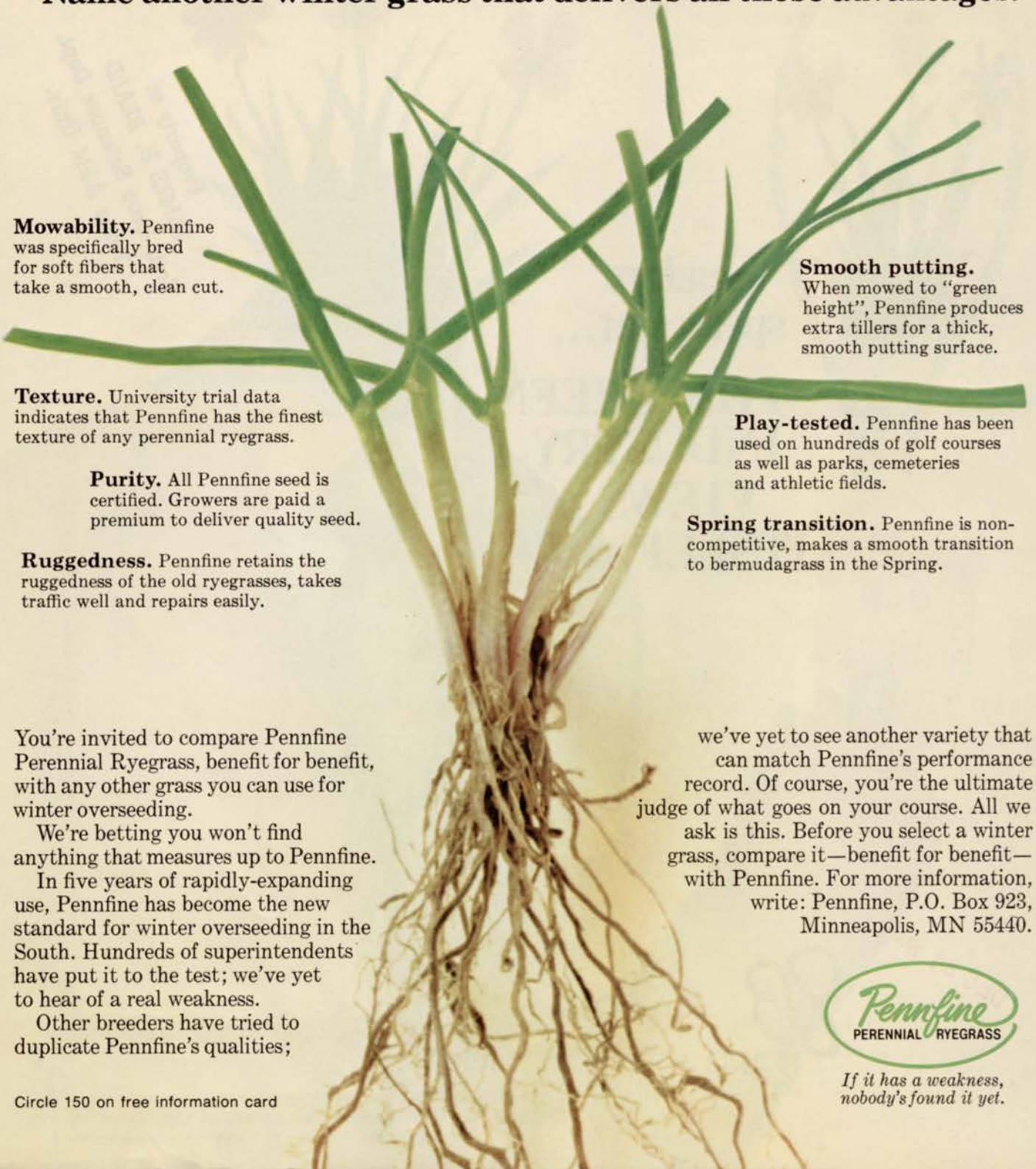

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WEEDS TREES & TURF®

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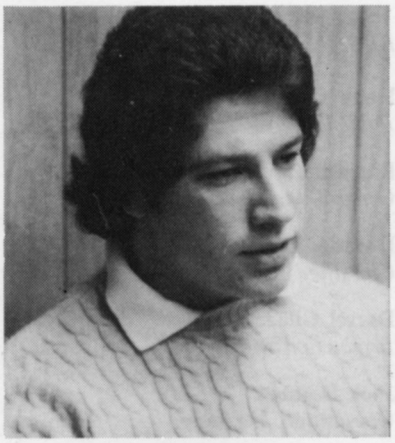
TO OUR READERS

For our December cover story we commissioned a self-portrait of the Green Industry. New Assistant Editor Eric Friedman's assignment was to find out exactly how industry leaders see the state of their businesses now and in the future. A good way, we thought, for Friedman to get his feet wet. The story turned out to be an education for



Friedman

the whole staff as leaders across the country spoke out on major issues. "Articulate, informed, enthusiastic, optimistic," is how Friedman described his contacts.

Nielson

Several months ago we visited the Ohio Agricultural Research and Development Center in Wooster on a tip that a research grant had been awarded for the study of the devastating black vine weevil. The study, it turned out, is being funded by both the Lake County Nurserymen's Association and the USDA. Dr David Nielson, the congenial outgoing project director, tells us the study is moving along well. Good news for nurserymen in the east and midwest. Read about it in our From the Campus column.

In early November, wrapped in a greatcoat I braved Illinois' unseasonably cold weather to visit Coon Creek Farm in Marengo. Well worth the trip, for I learned a whole new concept in tree farming from two of the four innovative partners in this unusual enterprise. If you've got equipment, land, experience or capital, you'll want to read about the Coon Creek experiment on page 22.

Just a reminder — Help us help you be a better professional in the Green Industry. If you have not already filled out your Editorial Quality Control Audit from our last issue, please do so. This audit will be used to determine what material we cover in 1977. We want to provide you with stories that will help you in your business, but we need to know what you want. So far the response has been good, the comments interesting and informative. But we need to hear from more of you.

Carl Wilson and Jeff Adams, Coon Creek partners

The WEEDS TREES & TURF staff would like to take this opportunity to wish you, our readers, a very happy holiday season. In the coming year we hope to expand our network of resources so that we might better apprise you of the vital developments in the Green Industry. We encourage a free exchange of information among our readers and ourselves. We shall continue to offer WEEDS TREES & TURF as a forum for the dissemination of current news, research findings, technical developments and position papers. Our singular goal is to deliver a comprehensive and informative publication to you, our readers. And you, our readers, are our most valuable contributors.

Gail D. Hogan

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Diazinon

Government News

The USDA has established a national agricultural pesticide assessment program to assist the U. S. Environmental Protection Agency in a comprehensive evaluation of pesticides needed in the production, processing and distribution of crops, livestock and forest products, Acting Secretary of Agriculture John A. Knebel announced today.

Amendments to the Federal Insecticide, Fungicide, and Rodenticide Act require that EPA review all existing pesticide registrations and make reregistration decisions. Any pesticide that exceeds certain EPA risk criteria will not be reregistered until EPA determines that its benefits exceed any risks associated with the use of the product.

Environmental Protection Agency Administrator Russell E. Train has accepted a plan proposed by the State of Mississippi to end all use of the controversial pesticide Mirex for fire ant control in the South by June 30, 1978.

Regarding substitutes, Train said that the pesticides diazinon and dimethoate and insect juvenile hormones "show some promise but have not been adequately tested." In addition, a Mississippi State University scientist is now experimenting in combining Mirex with amine compounds to increase its degradation time from years to days.

Twenty-four oriental fruit flies have now been trapped in Los Angeles, California--a situation that may prove to be the third major fruit fly infestation in that state in three years--the U. S. Department of Agriculture announced.

California's last oriental fruit fly outbreak was eradicated in the San Diego area in May 1975, after having been detected the previous September. Some 528 oriental fruit flies were trapped and many others killed at bait stations before the infestation was eradicated.

Under a cooperative agreement with the U. S. Department of Agriculture, Boyce Thompson Research Institute of Yonkers, N. Y. will investigate the culturing of a mosquito parasite, the nematode Reesimermis nielseni, in vitro--in an artificial environment outside the living host.

USDA's Agricultural Research Service will provide $25,000 for the research, which would also serve as a model system to extend others in vitro studies to control mosquitoes and other biting flies.

EPA has requested 12 companies to submit samples of herbicides which may contain nitrosamines, suspected carcinogens.

Glade

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A selection from Rutgers University, Glade has improved resistance to stripe smut, leaf rust, and good resistance to leafspot. Nationally tested as P-29, Glade is one of the fastest germinating bluegrasses. It establishes quickly forming a dense sod and thick, low-growing, leafy turf of a beautiful, medium to dark green. Glade mixes well with fine fescues for higher acid soils and blends well with other elite bluegrasses, persisting in moderate shade when others weaken.

Specify Glade Kentucky bluegrass for use in full sun or in mixtures with fine fescues for shade. You'll find Glade at your local wholesale seed distributor.

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Industry News

$13,000 awarded for turfgrass research

The Ohio Turfgrass Foundation has awarded a $13,000 grant to the College of Agriculture at Ohio State University.

The grant will support turfgrass research in agronomy, entomology and plant pathology.

Grants from the foundation have totaled more than $130,000 to turfgrass research since 1968.

Purdue to make revegetation study

Purdue University's Department of Horticulture has received a $50,000 grant from the Cooperative State Research Service to develop techniques for the rapid establishment of plants on lands disturbed by strip mining.

Dr. Phillip L. Carpenter, professor of horticulture, has been named as the project's principal investigator; his associate will be Dr. B. C. Moser, who is the current head of the horticulture department.

The researchers will divide their work into two major areas. Carpenter will work to establish a rapid cover for mined areas through plant communities that utilize nitrogen fixing "nurse" crops. Moser will focus on developing methods of improving root regeneration of transplanted woody plants, thus improving their chances of survival.

According to the researchers, large areas of southwestern Indiana and southern Illinois are either being strip mined for coal or will be in future years as the demand increases. One coal company alone strip mined 1500 acres a year in Indiana, the horticulturists point out. Returning this land to productive use as soon as possible is of great importance both economically and ecologically, they add.

The grant will cover a 24-month period. CSRS is a branch of the U.S. Department of Agriculture.

Cushman-Ryan has service schools

Cushman-Ryan will establish the turf-care industry's first known regional factory service training network.

Jack Northrup, service training manager, said service schools will be set up in Atlanta, San Francisco and Lincoln, Nebraska. Classes will be geared to mechanics in the turf care industry.

The 1976-77 curriculum will include 2½-day classes to be conducted on a rotating basis through March. Northrup said classes have been structured to permit specialized training.

Dow testing new pyridine herbicide

Dow Chemical U.S.A. reports that a new broad-spectrum pyridine herbicide under test in an experimental program is controlling ash, oak and root-sprouting brush species that often survive treatment with other chemicals.

Garlon 3A herbicide has been applied to utility rights-of-way, roadsides, railroads, industrial sites and on forest lands by 140 cooperators in 37 states in a program approved earlier this year by the Environmental Protection Agency.

According to Larry H. Speer, Dow product sales manager, the results of the program are being monitored with the expectation that the data generated will lead to full registration for use of the product on non-crop areas.

In addition to delivering the best control yet achieved with herbicides on ash, oak and root-sprouting brush species in many areas of the country, Speer said, Garlon 3A is active against a long list of annual and perennial broadleaf weeds and woody species normally controlled with 2,4-D and 2,4,5-T phenoxy herbicides and Tordon mixture herbicides.

Watershed study begins in Oregon

The Special Studies Branch of the U.S. Forest Service's Forestry Sciences Laboratory at Corvallis, Oregon has begun a cooperative study to biologically evaluate nutrient contributions to streams from logged watersheds.

With the controls, 15 experimental Oregon watersheds are included in the study. The timber in some watersheds has been totally clearcut, some watersheds have been partially clearcut, and others have had only selected harvesting of trees.

In some watersheds the slash (material remaining after harvesting) has been burned, while in others it has not. The primary tool used in this project is the algal assay, described in a Corvallis Environmental Research publication entitled "Algal Assay Procedure: Bottle Test."

One area encompassing four of the experimental watersheds is being researched more intensively and studies include the response of macro-invertebrates as well as phytoplankton.

Plant industry expands in Texas

The ornamental plant industry in Texas is now valued in excess of $75 million and shows great potential for continued expansion.

Because of its central location and favorable growing climate, the state is rapidly becoming a major producer of ornamental plants in the United States.

There's More to the Grass Seed Business than Making a Dollar!

Penncross Bentgrass Growers are proud to Present 1976 Scholarships to These Fine Young Turf Grass Students at Penn State University under The Professorship of Dr. Joseph Duich.

1.

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1. David C. Miller, LaCrosse, Wisconsin
2. George J. Fatseas, Vandergrift, Pa.
3. Robert J. Hudzik, Hunlock Creek, Pa.
4. Steven G. Hydak, Gibsonia, Pa.
5. W. Scott Ainsworth, Minnetonka, Minn.

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The trend is away from persistent insecticides

Days are numbered for environmentally persistent insecticides. Some chlorinated hydrocarbons which were employed extensively by turf managers have been banned and others are being contested by the Environmental Protection Agency (EPA). Also a number of pests have built up resistance toward chlorinated hydrocarbon insecticides — Japanese beetles are an example.

The trend away from these types of products is apparent. For better or worse, chemical companies bringing new products to market aren't likely to spend much research money on new persistent chemicals to replace those banned because of EPA opposition.

According to Dr. Wayne Arthur, vice president of research and development for the agricultural division of the Ciba-Geigy Corp., it currently costs $8-10 million to bring one compound from synthesis to the marketplace.

"Many chemical companies won't be willing to risk that kind of money on long-shot, though innovative, research on new classes of compounds," says Arthur. "Ciba-Geigy will continue to do innovative research, but will be more conservative in assessing whether to develop a compound.

"Cost, safety and the effect on the environment have to be taken into consideration and are major hurdles to pass, even though we may have a compound with excellent biological activity.

"Turf is often a secondary market in the eyes of chemical companies. In order to justify the high cost of research and development, it may be necessary for a product to be labeled for control of corn rootworm, for example, as well as Japanese beetle.

"On the other hand, turf is one of the applications considered in development of each new pesticide," says Arthur. "New materials with promise in the turf market are being tested by us right now. But it is too early for me to describe them in detail."

Because fewer truly new chemicals will be brought to market, Arthur says that turf managers will be making more use of established products like Diazinon or other versatile compounds. "Ciba-Geigy is making more effort to expand the labeled uses of such established products. Major research dollars have already been spent and those products already are registered by EPA," he explains.

New turf pesticides being developed for the future will be "softer," according to Dr. Haney Camp, director of biochemistry at Ciba-Geigy. Softer pesticides will be characterized by less environmental persistence and narrower spectrum of control.

"Also EPA is asking us for data on the interaction of chemicals used as tank mixes," says Camp. "We are required to do extensive studies on how a combination of chemicals affect soil microorganisms and how these microorganisms affect the chemical. We must do pH studies, more leaching studies on various soil types, and hydrolysis studies to see how fast they break down. We are required to trace the movement of chemicals, if any, from the site of application to adjacent streams and find out if residues build up in fish.

"The time is fast approaching when a single product will no longer be available that controls several insects with one application for a long period of time," observe Camp. "Instead one product will be used for a narrow range of insect species. It will need to be applied several

NEW PRODUCTS, NEW PROBLEMS FOR TURF MANAGERS

times a year and even then will probably have to be applied against the most susceptible stage of pest development."

For example, one application of chlordane gives many years of control of grubs. But when using an organophosphate like Diazinon, applications may be required every year.

Narrow-spectrum products mean more work for turf managers and for chemical manufacturers. Historically, one product might control several insect species. In the future a tank mix of several products might be needed to do the same job.

According to Dr. Richard Miller, extension entomologist at Ohio State University, use of short-residual compounds requires a lot more expertise on the part of turf managers.

"With a chlorinated hydrocarbon, turf managers don't have to be quite so careful about observing the fine points of rates and application techniques because of the nature of the material," notes Miller.

"With some of the popular short-residual organophosphates, special care must be taken. Many products need to be watered in thoroughly to get the material down to the insects. Too heavy a thatch layer, not enough water, or improper application techniques can all contribute to insect-control failure," reports Miller.

Miller outlines some basic principles turf managers should follow when using a short-residual chemical control program:

1. Every week inspect all turf areas, paying special attention to trouble spots. "Turf managers must take the time for thorough inspections," states Miller. "Turf is difficult to keep up with because of the many different insects and diseases that can abound during the year."

2. Identify turf problems quickly and accurately to determine whether the culprit is an insect or a disease. "If the wrong diagnosis is made, money is wasted on the wrong treatment," says Miller. "University extension entomologists, county agents, chemical manufacturers and distributors are more than willing to help when identification of a turf pest is in question."

3. Once the pest is diagnosed, the appropriate product should be applied.

4. Application techniques often make the difference between success and failure. Proper rates, watering-in methods, and wind speed affecting distribution of the chemical, are some of the factors that need to be carefully observed. "The best insurance for good control is to follow the labeled instructions. Most of the failures I'm acquainted with aren't related to the material, but to the person who applies it," reports Miller.

5. Accurate records should be kept regarding what insects were controlled, when the chemical was applied and which chemical was used. "Taking it even further, it's wise to record the lot number of the chemical," advises Miller. "Sometimes chemicals get produced at plants where something went wrong. With good records, it can help experts determine the cause."

Times are changing, chemicals are changing and turf management will change as well. "More professionalism on the part of pesticide users can go a long way towards muting the demands of those who shortsightedly promote a total ban on all chemicals," says Miller. □

Dixie Cassell extracts pesticide residue from crop sample in Ciba-Geigy's Greensboro, N.C. labs.

New charm for an old

Boston landmark

A beautiful new tree-lined mall for Fanueil Hall Marketplace

In the city of Boston, tradition is almost taken for granted. Yet in late August, 1976, an event was staged that brought new excitement and a resurgence of interest in Boston's downtown area that is unique to the city.

Exactly 150 years to the day it first opened, the Marketplace at Fanueil Hall re-opened. It had taken more than 10 years of planning, design and development by various agencies, departments and the Rouse Company of Baltimore to restore the buildings which house the marketplace adjacent to Boston's famous Fanueil Hall.

Inside the original buildings, the Rouse Company has provided space for vendors of all kinds of foodstuffs, offices, restaurants and shops. Outside, between the two buildings and leading to the steps of Fanueil Hall itself ("where it all began" 200 years ago), a new pedestrian mall beautifies the area. In fact, some 25 shade trees, benches and seating, plus romantic gaslights make the mall an attractive haven for visitors throughout the day and evening.

It took Frost and Higgins — specialists in tree care for almost a century — to get the large trees moved and installed before opening night. And because of the historical significance of opening night — 150 years to the day of the original opening — installing the trees was almost as dramatic as the rebuilding of the entire project.

To illustrate: Of the 25 trees to be emplaced, 22 are honey locusts. With 7-10" diameter trunks, each tree with root ball weighed about 15,000 pounds. Because of the extreme heat of New England's late August, the trees were moved entirely at night. This meant over-the-road hauling from New York State, where they were grown. After the ten-hour ride from New York, the trees were thoroughly watered at Frost and Higgins' main yard in suburban Burlington, Mass.

The next night, the trees were trucked into Boston and installed during darkness. Under normal conditions, moving and installing the trees would have been a delicate operation. Complicating the task was, naturally, a heat wave, plus a severe lack of rainfall during the entire moving period, as well as the mounting pressure of that deadline.

The deadline was important because the trees had to be in place prior to cobblestone paving, which was the last step before opening. As the first ten trees were installed, there was another problem. The excitement of the new Marketplace was becoming contagious. While the trees were being gingerly moved into place by a massive specialy designed tree crane, cameramen and reporters from Boston's TV stations and newspapers were running around, through and over the site for "dramatic shots" for the late news and next-morning editions.

But in spite of the TV cameras (complete with hot lights) and the hundreds of workmen swarming throughout the project to complete it on-time, the trees were installed . . . one full week ahead of the official deadline.

The installation required six nights of labor, working from dusk (about 9:00 PM) until almost dawn. But when the new Fanueil Hall Marketplace opened, 22 Honey locusts and three little leaf Lindens were standing proudly in their new home. It is expected that these shade trees will grow to mature heights of about 35 feet each. □

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Chipco Buctril® gives early control of broadleaf weeds in newly planted grasses for sod or seed production.

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Chipco Turf Kleen is a broad spectrum herbicide that controls broadleaf and surface creeping weeds with a wide margin of safety around trees and shrubs.

Chipco Spot Kleen is a systemic fungicide for control of dollar spot, Fusarium blight, stripe smut, large brown patch and copper spot.

Chipco Thiram 75 prevents and controls snow mold, large brown patch and dollar spot. Used with Spot Kleen, it offers a complete disease control program.

Chipco Microgreen Liquid prevents chlorosis which results in long lasting deep green color, more root growth and less desiccation.

Chipco Turf Herbicide D is a general purpose broadleaf herbicide ideally suited where economical control is desired.

Chipco Spreader Activator is a quality adjuvant to increase the efficiency and effectiveness of turf chemicals.

Chipco Crab Kleen gives economical and selective post-emergence control of crab grass, chickweed and other grassy weeds in established turf.

Rhodia

Rhodia Inc., Agricultural Division, Monmouth Junction, New Jersey 08852

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THE GREEN INDUSTRY/ a self portrait

In this series of exclusive interviews, numerous industry leaders talk candidly about the Green Industry 1976-1977.

JOHN NUNES
NUNES TURFGRASS NURSERY
PATTERSON, CA.

"On the West Coast we have seen one of the best years in the past several. Machine customers seem to be pretty happy with turf sales and building has not suffered here as it has in other areas of the country. Because of the climate here, we have a year 'round business and our emphasis has been on developing new techniques in marketing and advertising. Actually with a large market there is more pressure to promote our products and improve our public relations. . .

"Next year we will begin marketing a new machine which will lay synthetic netting and seed underneath new turf. The netting will act as a root system, and should increase the maturity time for turf. We have finished a number of test plots with considerable success and we are looking forward to another good year."

JAMES LINCOLN
SOUTHWEST HYDRO-MULCHERS DISTRIBUTING CO.
DALLAS, TX.

"Hydro-mulching has typically in the past been used in erosion control and has been a reasonably good substitute for hay and straw mulching. We are seeing more and more use of hydro-mulching on home lawns, business properties, in city parks, and in almost all facets of the landscape industry. This growth is particularly noted where sod has been used at high cost. I think we'll see a lot more use of hydro-mulching in the landscape industry. We have a long way to go but I think we'll see a lot more of it in getting a bigger chunk of the turf market."

PETE MILLER
FIRESTONE COUNTRY CLUB
AKRON, OH

"In turf care we have seen sort of a backward move. Because of the development of resistant strains, we have gone back to some of the older chemicals. People are going to have to realize that they can't use one chemical longer than one season or two at the most. In turf plants we seem to be going ahead in some areas such as with bluegrasses and ryegrasses. We seem to have developed some good and useful strains. The bentgrasses seem to be at a standstill. The vegetative strains seem to have fallen apart completely. Actually there just isn't the research money in turfgrass that there should be. . .

"From a business standpoint, superintendents are going to have to be much more cost conscious with equipment and supplies in the future. The superintendents' association has got to get the move on in symposia to educate. Certification testing is a good move, but an empty one without the educational benefits that go along with it. Certification doesn't mean anything if you're not keeping up."

RICHARD FIELDS
INDUSTRIAL VEGETATION CONTROL MANAGER
VELSICOL CHEMICAL CORPORATION
CHICAGO, IL.

"There has been an availability of funds for vegetation control in the railroad industry which we haven't seen for several years. I believe that this is a function of a general upturn in the economy for the railroads which has been reflected in the availability of more monies for maintenance. We have also seen a good deal of federal monies being allocated to the railroads.

"As far as Velsicol is concerned, we have developed and have an experimental permit for a new soil residual herbicide for grass and broadleaf weed control. Hopefully we will be introducing that with full label registration with the hope that it would be of major consequence in the industry. . .

"In the utility market, things seem to be easing up financially. Rate increases have alleviated what was an extremely depressed market in control programs. It seems that when monies are tight, maintenance is the first area which is cut. I would look for a positive trend in the next few years based on the realization of the industry that maintenance is an indispensible part of responsible and well-planned growth."

TOM SCHILTZ
DIRECTOR OF EDUCATIONAL AND TECHNICAL SERVICES
SPRINKLER IRRIGATION ASSOCIATION
SILVER SPRINGS, MD.

"We have been pushing for the licensing of irrigation contractors as a quality control measure. We are faced with a lot of moonlighting. In order to separate the weekenders from the professionals, we need some measures like this. . .

"Technically, more and more we are getting into wastewater application which will be a tremendous asset to the ecology and to the industry. Once this product is approved, I feel that it will be extremely marketable and useful to the entire green industry. . .

"One of our most important projects here will be in the education of architects and others with respect to

irrigation techniques. Very few universities have irrigation programs. People shy away from industrial programs because they feel they might be sold something. I feel that it is our responsibility to bring the various facets of the industry together through education."

BRUCE CAMENGA
MANAGER OF TECHNICAL SERVICES
THE TORO COMPANY
RIVERSIDE, CA.

"We have been addressing the task of setting standards for testing procedures for irrigation equipment. Designers and users are faced with the problems of a lack of operational definitions of products by manufacturers from catalogue to catalogue. We need uniformity of criteria for describing products and listing figures in the books about irrigation products. . .

"We're trying to make the figures in the catalogue more believable. We must sell our products with integrity. Standard methods of testing and of reporting test data will go a long way towards accomplishing this."

RICK RANDALL
RANDALL AND BLAKE, INC.
ENGLEWOOD, CO.

"We have directed most of our energies towards mining reclamation projects. We have gotten into some aerial seeding by helicopter. In reclamation products we have had considerable success with a new plastic extruded netting which is placed over erosion agents such as straw or hay to hold it on inaccessible areas where you can't crimp it...

"In addition to pursuing our mining reclamation interests, we will also have a good percentage of work coming from the highway. One other area that we will be into as far as reclamation is concerned is in experimental test plots for universities and corporations who are involved with oil shale on high altitude and dry land revegetation."

THOMAS STEWART
EXECUTIVE DIRECTOR
ASSOCIATED LANDSCAPE CONTRACTORS OF AMERICA
McLEAN, VA.

"What we've found in the last two years is that due to the general slowing up in the construction industry our landscape contractors have had to cultivate new markets. One of the most important new markets is in maintenance. Many existing landscaping companies are adding maintenance divisions; there are entrepreneurs who have contracting companies that are starting maintenance firms. Municipalities are turning to maintenance contractors to perform work that their own staff used to do. . .

"Another area that people have become involved in is interior landscape contracting. It is a new industry, and more and more new buildings are going up that to emphasize plant materials. The scale of this work is such that florists are getting into installation, or landscape contractors are picking up that business. . .

"Possibly the worst of the construction industry's problems are over and some contracts are beginning to come back. One thing that did occur as a result of bad times was the formation of the National Construction Industry Council. The organization is trying to impact government from the construction trade standpoint to speak with one voice. We are very interested in seeing this develop so that there is more representation of the construction trades in Washington."

ROBERT F. LEDERER
EXECUTIVE VICE PRESIDENT
AMERICAN ASSOCIATION OF NURSERYMEN
WASHINGTON, D.C.

" We have seen a mixed bag of results in the past year. Although the economic end of our industry seems to be in good health, I feel that nurserymen have suffered somewhat from our own complacency. We are nearing the end of the green industry boom which was aided by great support from Mrs. Johnson during the Johnson years vis-a-vis the various beautification programs. . .

"We need more professionalism and better merchandising techniques. We all have to become experts in all phases of our industry so that we can educate and communicate with our customers. Green survival is a concept which encompasses a myriad of things. If we can put in people's minds some tangible sense of what green products can mean to them personally, we will have come a long way. I hope that we are headed in this direction in the future."

RICHARD READE
MID CONTINENT AIR CRAFT CO.
HAYTI, MO.

"The trend this year has been towards the certification of applicators based on state law, under pressure from the federal law. This has caused a tremendous increase in expenses for operators but also an increased professionalism. And the groundwork has been for the continued expansion and use of aircraft in the application of pre- and post-emergent herbicides. That, coupled with the increased development and use of fungicides on wheat, soybeans, and rice, has highlighted our year. . .

"The green light that was given NASA to promote and expand their knowledge of the agricultural aviation industry to improve the state of the art and this should have long term impact on the industry. This seven- or eight-year program will help us improve dispersal systems and related flow systems around the aircraft. This should have greater impact in improving the quality of application work than anything since the advent of organic chemicals after World War II."

FARRELL HIGBEE
EXECUTIVE DIRECTOR
NATIONAL AGRICULTURAL AVIATION ASSOCIATION
WASHINGTON, D.C.

"We have been increasing our

business at an approximate rate of 12 percent. This year was a bit below that because of drought in many parts of the country. The number of operators and aircraft has remained about the same with about 8,000 planes and about 3,300 steady operators. . .

"With the introduction of the turbine-powered aircraft this year we have a greater horsepower capability in a lighter unit. This has enabled us to do an ever increasing amount of herbicide work on corn and soybean with greater efficiency. Growth regulators are also becoming a big part of our business. . .

"Our operators are looking at a greater market for their service. If prices remain stable and the export market continues to grow we ought to do quite a bit of work next year."

HYLAND JOHNS JR.
SENIOR VICE PRESIDENT
ASPLUNDH TREE
WILLOW GROVE, PA.

"We need to identify research needs in the green industry so that we can establish our priorities in development. In order to implement our research findings we must feed our results to the practitioners out in the field so that they can utilize the technical developments that are occurring, by government and private industry. . .

"In arboriculture, we would like to establish an information clearinghouse. In our industry, maybe 10 percent of the people belong to the International Society of Arboriculture. I would like to see a liaison among green industry people to advance our collective knowledge, particularly with reference to advocacy of our needs to mold government intervention in business and industry. . .

"We must educate the public as to what we are doing and why. Granted, we need to do a better job at self-regulation. At the same time I think that through better public relations we can make people aware of our intentions to serve them without offending the environment."

TOM WEATHERS
DIRECTOR
ALTON PARK AND
RECREATION COMMISSION
ALTON, IL.

"We have a tree program here in Alton which I feel is among the best in the nation. If we can create green spaces and prevent our cities from becoming asphalt jungles, we can do a great deal for the morale of our cities. Our efforts have been in the area of making people aware of the visual image of their urban environments. In this regard we have created a 645-acre 'green buffer' on the edge of our city complete with recreational facilities. The monies for this have come from donations from foundations and personal gifts. . .

"Citizen input in making decisions with our green spaces has been extremely valuable. When we held a meeting, the citizens were invited to discuss the view into the park. They told us 'please don't cut down our bushes and trees."

TROY SCARBOROUGH
SCARBOROUGH GRASSING INC.
BROOKSVILLE, FL.

"Our business in Florida has been hurt this year by the overbuilding of condominiums and single family housing. It has become a glutted market, and the banks and REIT's have been hurt badly. New construction is almost at a standstill and you can imagine what that has done to the grass and turf market down here. . .

"I hope for the sake of the construction industry, that we can get some help from the new administration in Washington. If the unions have their way with the 'common situs' issue, it would be an awful blow to our business."

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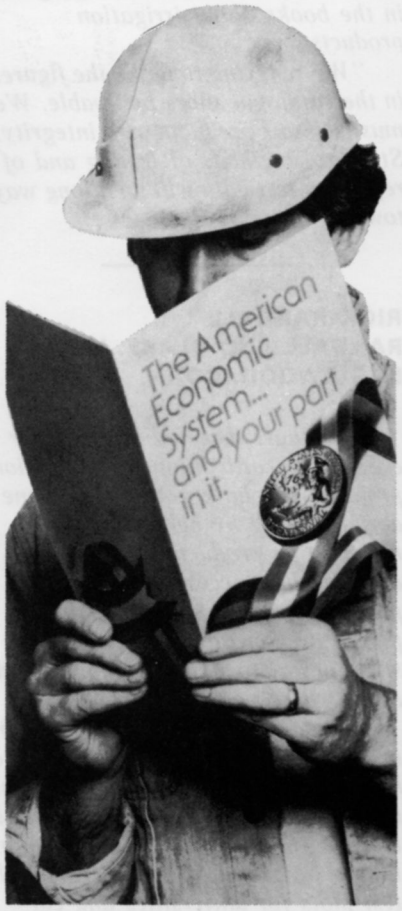

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RON GIFFEN

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THE COON CREEK EXPERIMENT

an innovative approach to tree farming

Smack in the middle of a thriving 160-acre grain farm in Marengo, Ill., stand 1500 fine specimen trees. The trees, honey locust, emerald queen maple, Rosehill ash, Greenspire Linden and sovereign pin oak, are at a sturdy three to three and a half inches in diameter, but they aren't for sale.

"We're letting them grow another year or so to add an inch to inch and a half to their diameters and a whopping 100 percent to their value," smiles John Banghart, the innovative owner of the property and originator of the farm within a farm concept.

John's brainchild began a little over three years ago when he, businessman Glenn Adams and Glenn's son, Jeff, were looking for a profitable way to provide young Jeff with a constructive learning experience in the nursery business.

"At that time I had just sold my sod farm business and was planning to concentrate on developing my Marengo property," recalls John. "I realized I had available property and equipment, Glenn would invest the necessary capital if there were a sound business proposal, and young Jeff would provide the labor. All we were really missing was an experienced nurseryman." It was then they convinced 20-year veteran nurseryman Carl Wilson to be the fourth partner. The four had no trouble agreeing on a project. It would be a tree farm. But insuring a profit took a little more ingenuity.

"We knew there was a growing market for larger trees that just wasn't being supplied," says John. Landscape contractors on bigger jobs — institutions, golf courses, schools, parks — want larger trees immediately. They don't want to have to wait a couple of years while they grow." So the project was finalized. Coon Creek trees would only be sold when they reached four to five inches in diameter.

In early spring of 1973, under Carl's supervision, Coon Creek purchased 1500 ¾-inch diameter branch liners for a capital investment of $20,000. In April they were pruned then planted with the help of an 18-inch auger. The trees were planted 12 feet apart in rows of 50 with the rows 15 feet apart. "We needed the space for harvesting," explains John. It will be done under Carl's direction by hand with the help of a trencher. This means each tree will need a five foot square dug around it."

Honey locust, emerald queen maple, Rosehill ash, Greenspire Linden and sovereign pin oak grace ten acres of the 160-acre farm.

Each September the trees are fertilized with a 6-24-24 low nitrogen mix. "We're careful not to over fertilize because we don't want to force growth. This causes bark splitting," John explains. In late February they are sprayed with a dormant oil, and in June with a foliar spray. Trimming is done as needed back to the lateral branches and the trees are continuously straightened.

If harvested at two to three inches, according to John, the $20,000 original investment would gross $112,500 or $75 a tree. If harvested at four to five inches in diameter, he says, the gross will be in excess of $225,000.

Why is such a simple idea as letting the trees grow an extra year or two to double the profit so in-

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THE COON CREEK EXPERIMENT

novative? "Because," says John, "most people just aren't set up to go five to six years without any income. Your land is tied up, you must have use of and maintain your equipment and labor is usually a factor." Nevertheless, John believes many more people in similar circumstances could adopt the Coon Creek concept and make a considerable profit.

John calls the Coon Creek experiment Phase I. Phase II, the planting of 20 acres on a nearby farm, has begun with 500 specimen branch liners already in place. Jeff is the only Coon Creek partner in the new enterprise.

Although young Jeff is only in his third semester of his nursery education, it appears he's headed for a magna cum laude degree in tree farming, and Carl, Glenn and John are headed straight for the bank.□

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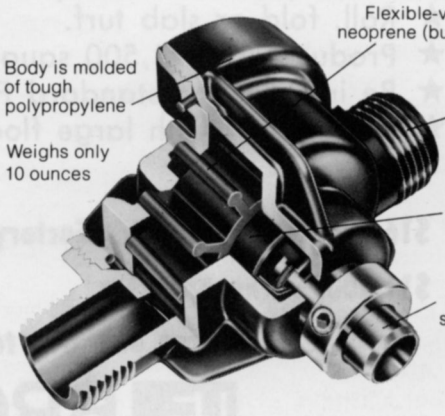

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From the Campus

OARDC declares all-out war on woody ornamental pest

A serious insect pest of woody ornamental plants throughout Ohio has become the object of an intensive study by entomologists at the Ohio Agricultural Research and Development Center.

Dr. D. G. Nielson, OARDC entomologist and project leader, says the black vine weevil is the number one nursery insect pest, particularly along Lake Erie. As yet no adequate control program has been developed to alleviate the problem.

The pest is also a major problem in nurseries and homeowners' yards in Rhode Island, Pennsylvania, New York, and Connecticut. The insect's two most important hosts in these states and Ohio are taxus and rhododendron. It will also attack other ornamentals as well as small fruit crops.

A major effort against the black vine weevil has developed in Ohio as a result of a $33,000 grant from the Lake County Nurserymen's Association. One Lake County Nurseryman lost 2,000 rhododendron valued at $10,000 due to the weevil.

Nielsen says the larval (grub) stage of the insect does the most damage by feeding on the roots of the host plant. The larvae thrive in light sandy soils, hence their large concentration along Ohio's Lake Erie nursery belt. The entomologist adds that if the foliage of rhododendron or taxus suddenly turns yellow, it is a good bet that grubs are attacking the roots. The adult weevils will eat foliage, but this damage is secondary to root damage by the larvae.

Nielsen and assistant Mike Dunlap have already discovered that a small percentage of adults overwinter. These adults start maturation feeding in early April and begin laying eggs before many nurserymen even think of spraying with recommended insecticides.

Actually, few insecticides perform effectively against the larvae. Nielson says the larvae are apparently able to resist most insecticides tried so far. He adds that the ideal pesticide would be a soil-applied one which would provide a chemical barrier between the young larvae and the roots on which they feed. Nielson and Dunlap hope to develop a larvicide program for nurserymen after they have learned more about the larvae's response to light, gravity and other stimuli.

There are a number of unique features about black vine weevil adults. For one thing, even though they have one pair of wings, they are flightless. This means that their movement from one place to another is limited, causing population levels to build rapidly in a specific area.

There are no male black vine weevils in the United States. This condition, known as parthenogenesis means that the weevil's eggs hatch without being fertilized. Nielsen has been told that males exist in Europe and is interested in controlling black vine weevil by using pheromones with the help of imported males. Pheromones are sex attractants produced by an insect. They have been used to help to control some pests naturally.

Nielsen will be travelling to Europe this summer to investigate the pheromone possibility. Much research has been done in Europe because of extensive damage to grapes and strawberries caused by black vine weevils.

Research efforts in this area have most recently been boosted by a $40,000 grant from the United States Department of Agriculture. According to Nielsen, the current undertaking is the most intensive venture against the black vine weevil in the United States. If effective control measures are to be found, they will probably be found in the next three years, he concludes. □

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TURF LITTER SUPPRESSES DISEASE

by Robert L. Haney

Did you know turfgrass litter that builds up on the soil surface supports thousands of different kinds of microorganisms which decompose the litter and suppress turf diseases?

According to Dr. Phil Colbaugh, plant pathologist with the Texas Agricultural Experiment Station at Dallas, turfgrasses have a unique microbiological defense system which protects against many diseases attacking them.

Most diseases of turfgrasses are caused by fungal pathogens which feed on both living and dead plants. Fungi which cause Fusarium blight, leafspot, brown patch and Pythium blight are common examples. This group of fungal pathogens largely relies on turf litter for survival when it is too cold, hot, wet or dry for rapid growth. The litter is also used in the production of spores or fungus threads by which the diseases spread.

The accumulated litter which surrounds the turfgrass plant consists of grass clippings, dead or dying lower leaves, stolens, rhizomes, roots and tillers which are in various stages of decomposition.

Microorganisms which decompose litter not only compete with fungal pathogens for available food, but also produce compounds which suppress the growth of pathogens. Litter decomposition is mostly done by bacteria; however, many beneficial fungi are also present in litter, especially during advanced stages of decomposition.

Colbaugh cautions against excessive buildup of grass clippings. Research has shown that turfgrass clippings which are added to the litter during mowing greatly favor disease increase.

He explains that at the time of mowing, turfgrass clippings have a high content of available nutrients and low numbers of beneficial microorganisms needed to suppress fungal pathogens. Collection of turf clippings during the growing season prevents excessive buildup of litter which favors disease.

Temperature, moisture and a continuous supply of available nutrients are important factors which regulate disease development on turfgrass and suppress litter microorganisms. There are many examples of turfgrass disease which are started during periods of environmental extreme, or when too much or too little fertilizer is applied.

For example, summer disease problems are common on closely clipped turf, or where temporary drought conditions allow turf litter to dry. Colbaugh's research has shown that the activities of litter microorganisms are greatly reduced without moisture. But, several turf pathogens grow readily on dried litter immediately after remoistening.

Colbaugh considers drying and rewetting of litter to be a major factor favoring disease activity on turf during the summer. Turfgrass also becomes increasingly susceptible to disease when under water stress. Drought aids the development and spread of disease on turf.

Research shows that proper irrigation is necessary to maintain an active microdefense system on litter and a vigorous stand of turf during the summer. Keeping turfgrass litter moist allows continuous activity of beneficial litter microorganisms. This doesn't mean that turfgrass should be kept sopping wet, as this would favor certain fungal pathogens. A well developed turf cover will maintain litter in a moist condition for a long period while a thin cover will lose moisture quickly.

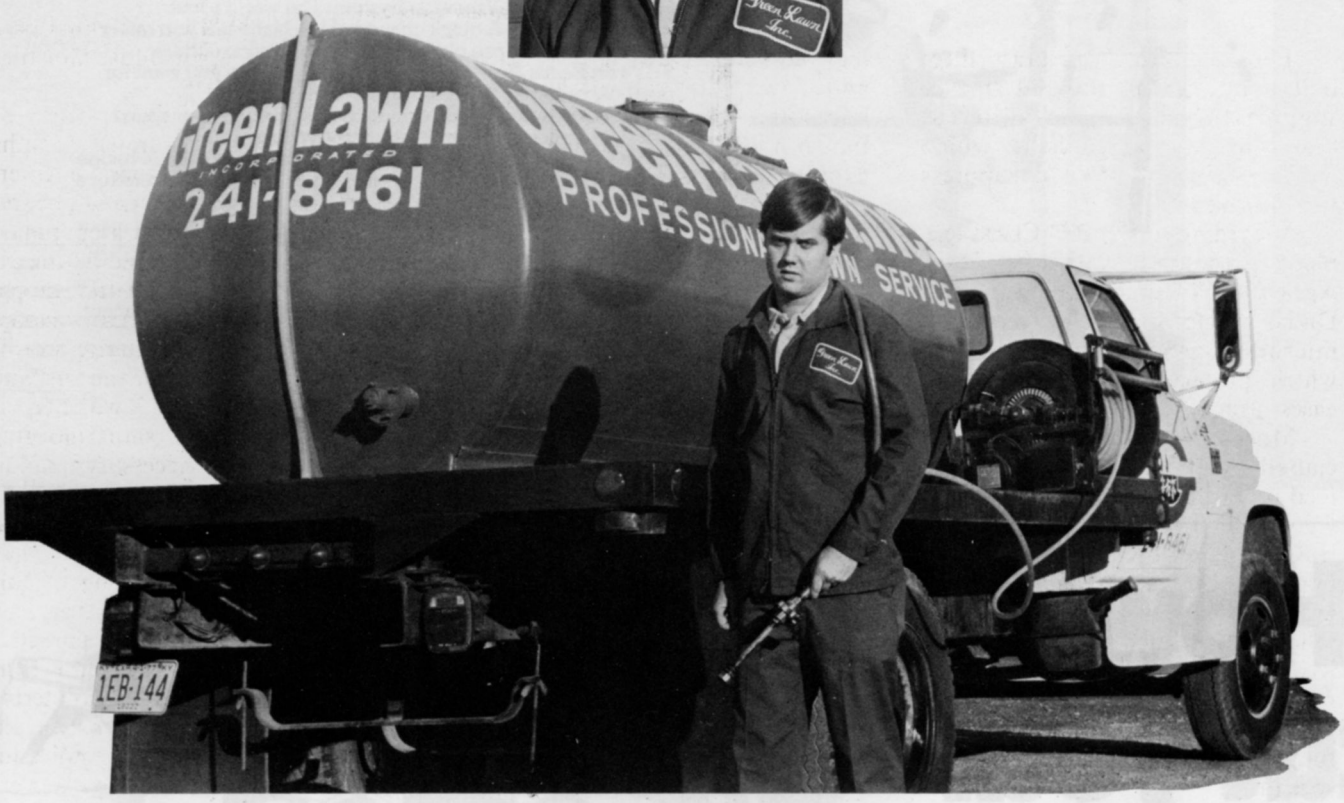
Increasing the mowing height of turf during the summer months helps conserve moisture in litter, Colbaugh's research shows. The frequency and amount of water applied to a lawn should be based on the existing structure of the turf canopy. For a lawn with a dense canopy, once-a-week deep watering may be sufficient to keep both the soil and litter moist. For a lawn that is thinned out, several short morning waterings may be necessary in addition to the weekly deep watering to keep both the litter and the soil moist.

The timing of watering of turf can help reduce disease activity, according to Colbaugh. The practice of early morning watering allows the turf foliage to dry quickly. Watering of turf during the evening or at night usually keeps the foliage moist for long periods and creates a very favorable environment for disease activity by turfgrass pathogens.

Cultural practices designed to keep litter-decomposing microorganisms vigorous, have proven helpful in the suppression of many fungal pathogens on turf. Future research will look for additional triggers of fungal pathogens on turfgrasses. These studies will enable plant scientists to propose other cultural practices for turfgrass based upon an understanding of how common turf diseases can be naturally suppressed. □

Robert L. Haney is a science writer for the Texas Agricultural Experiment Station.

Tim Shallcross Jr. switched.



Tim Shallcross, Jr., of Green Lawn, Inc., in Louisville, Kentucky, uses Lescosan (Betasan*) for pre-emergence crabgrass control in his lawn spray business because Lescosan gives full season control of crabgrass. As Tim puts it, "When you're operating in the crabgrass belt, you need all the longevity you can get."

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Tim also uses Lescopar, a formulation of 2,4-D and M.C.P.P., a non-volatile herbicide which gives excellent weed control and no worries about tree root damage.

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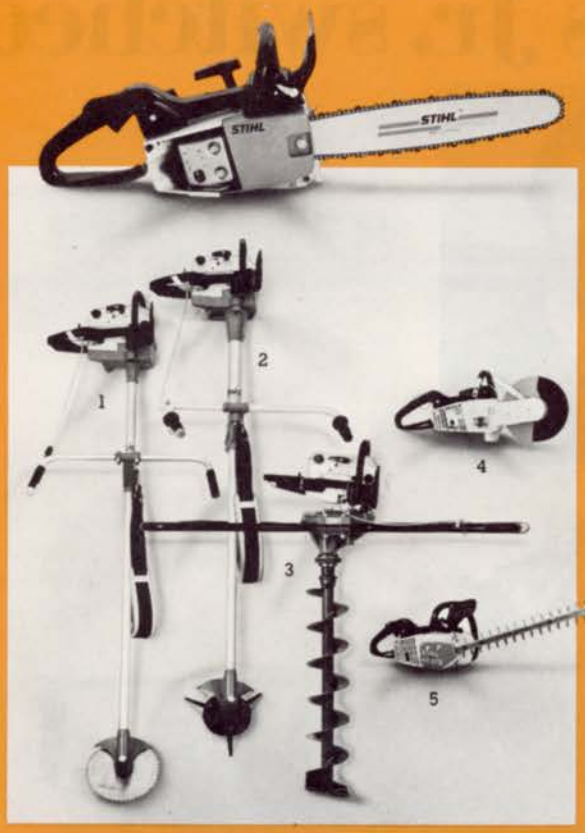

WHAT'S DIFFERENT ABOUT THIS CHAIN SAW IS WHAT MAKES THE DIFFERENCE.

1. **It's a Brush Cutter.** The same engine that powers our lightweight pro saw takes the shakes out of brush cutting with our patented Anti-Vibration System. The world's first.
2. **It's a Poly Cut.** A quick change of the blade lets you safely trim around the close places with flexible nylon cutters.
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Chew 'em out with a Vermeer Stump Cutter! It's the fastest, easiest, most economical method of removing big, ugly stumps available today. With just a single operator and one Vermeer Stump Cutter, you can chew large stumps to chips in minutes. Its big hydraulically-controlled cutting wheel handles the entire job much faster, easier, and more economically than a whole crew. Saves thousands of dollars and manhours for cities, parks, cemetaries, golf courses, landscapers, contractors, utilities and tree service firms everywhere.

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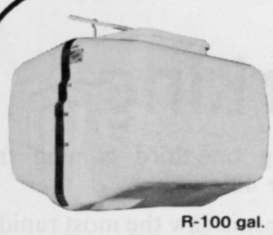
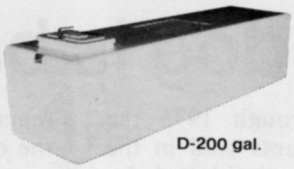
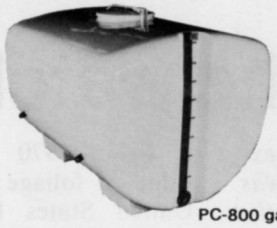
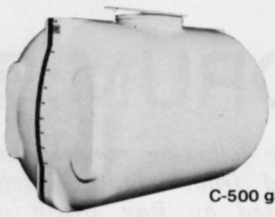

R-100 gal.

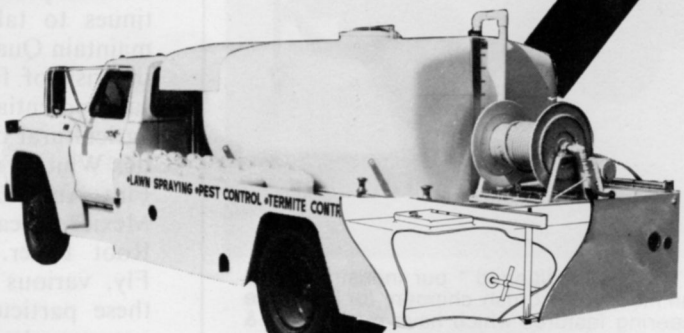

D-200 gal.


PC-800 gal.


C-500 gal.

CONTROL THE PESTS ECONOMICALLY WITH FIBERGLASS SPRAY TANKS

(FOR MOUNTING ON YOUR TRUCK)



Cutaway view showing D. 200 gal. mixing tank.

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FIBERGLASS SPRAY TANKS

. . . known for serviceability and dependability in the pest control industry featuring . . .

•

Lightweight fiberglass, solid single-piece construction, eliminating maintenance.

•

Smooth, non-porous surface easily rinsed to reduce chemical carry over contamination that causes clogging damage to spray equipment.

•

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All tanks constructed of special chemical resistant resin.

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Tuflex Manufacturing Co. . . . specialists in pest control fiberglass spray tanks. Economical prices with high quality handcrafted workmanship.
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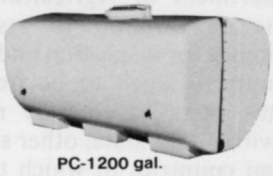
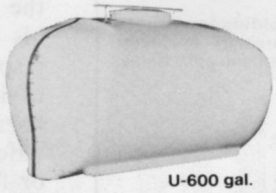
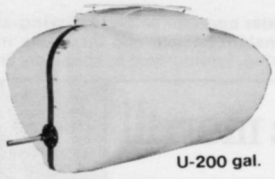
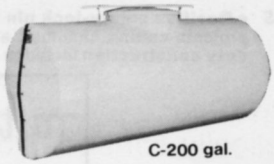
THE LARGEST FIBERGLASS "PEST CONTROL" SPRAY TANK MANUFACTURER IN THE SOUTHEAST


PC-1200 gal.


U-600 gal.


U-200 gal.


C-200 gal.

FORUM: The watchdog is barking

The following remarks are excerpted from a talk which was presented by Ray Brush of the American Association of Nurserymen before the National Plant Board.

Fundamental to analyzing how great a pest risk there may be with foliage plants is an understanding of the phenomenal growth in the foliage plant business.

From 1970 through 1975 the value of foliage plants sold in the United States has multiplied by nearly seven times. Two states account for most of the production — Florida and California. In 1970 it was estimated that 55 percent of the foliage plant sales represented Florida production and 12½ percent California production, the remaining one-third coming from the other 48 states.

California saw the most rapid increase during this period. Let's examine the cause of this expansion. Increased production by florists, foliage producers, nurserymen, poultry growers, vegetable growers, speculators new to horticulture, and imports accounted for this growth. Reports from both California and Florida indicate that some new foliage producers, in getting started with these crops, experienced difficulty in meeting the quality level sought by retailers and consumers. Along with that difficulty could come increased pest risk.

What was and is the American Association of Nurserymen's stand on this pest risk? The AAN continues to take a strong stand to maintain Quarantine 37 to minimize the risk of further introduction of such potentially hazardous pests of agricultural crops as Japanese Beetle, White Fringe Beetle, Imported Fire Ant, European Corn Borer, Mexican Bean Beetle, Sugar Cane Root Borer, Mediterranean Fruit Fly, various viruses, etc. Some of these particular pests entered this country before the advent of Quarantine 37, others since.

The control of these pests and others continues to be a burdensome expense for nurserymen. As the Japanese Beetle moves south and westward, does the soybean, cotton, or peanut farmer care? Apparently not, for each can still market his crop even though a reduction in yield may be experienced. In contrast, the nurseryman, if his plants become infested, can only market his plant within the quarantine regulated area or not at all.

The American Association of Nurserymen believes it is the joint responsibility of the producer and the Department of Agriculture of his State or Country to assume responsibility for inspecting and certifying nursery stock to be free of hazardous pests covered by regulations within that state, other states or foreign countries to which those plants might be shipped. □

Applying engineering designs which "Sound Conditioned"* our industrial scrap reduction machinery, Mitts & Merrill can modify our brush chippers for low noise levels. At the same time, those engineering features which have made Mitts & Merrill the leader for years have been retained.

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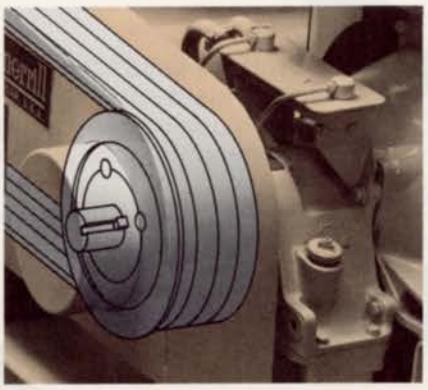
Staggered knife pattern, for years a Mitts & Merrill feature, has always resulted in a lower noise level. First, by segmenting the noise source. Second, through smoother cutting action. Third, by producing smaller chips.



Optional torque converters and the heaviest steel cylinder — even without an external flywheel — combine to give positive cutting action under the most rugged conditions. Isolates the engine from shock. Minimizes maintenance.

Plus • **Positive safety-lock pin** for greater operator safety • **Swing-away, folding feed chute** protects cutting chamber; allows instant access and increases maneuverability • **Heavy duty construction** includes coil spring, torsion-type suspension, and box tubular steel frame.

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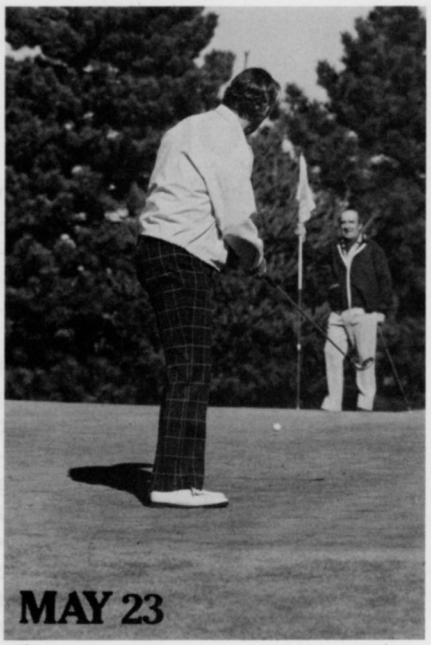

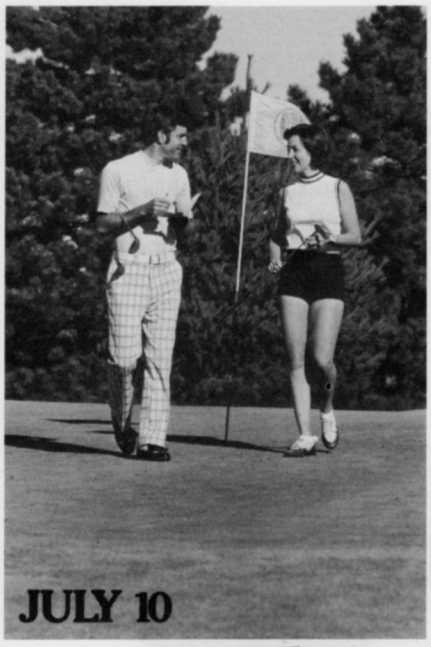

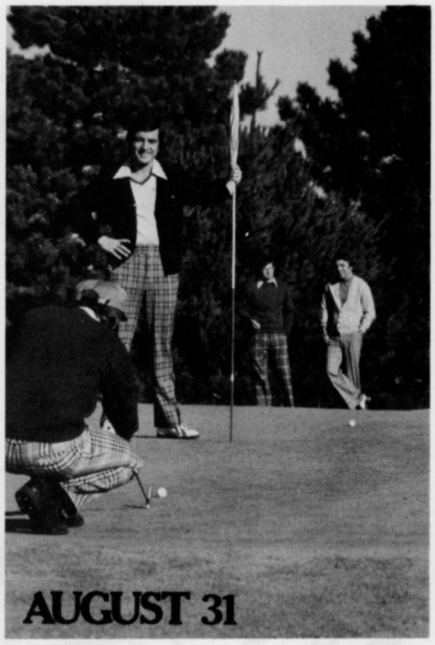

It can take months to compact a green. It takes 60 minutes to fix it.

Greens aeration is one of the most important maintenance jobs you have. Months of compaction can damage a green by preventing air, water, and fertilizer from penetrating the surface. Proper aeration is essential. But it must also be done quickly to get your course back in play and keep your golfers happy.

The Greensaire II does both. It cleanly penetrates the soil, removing cores up to 3″ deep. It is so precise that the holes it makes do not affect the true roll of a golf ball. And the Greensaire is fast, aerating the average green in 60 minutes or less.

If you're satisfied with your soil content, the Greensaire's Core Processor attachment can make aerating even faster. It catches the cores, separates good soil from debris, puts the good soil back on top, and bags the debris. You top dress and collect thatch at the same time you aerate.

Maybe you don't need the big capacities of the Greensaire II and Core Processor, but you do want the same fine capabilities. Then choose the Greensaire 16. Instead of a 24″ swath, you have a 16″ width. You can use the same selection of tines and the convenient windrow attachment makes core removal easy.

And like all Ryan equipment, these machines are built to last. We believe longevity is just as important as performance.

Whether your greens need aerating twice a year or twice a month, there's no better or faster way than with Ryan aerating equipment.

For your free catalog, write OMC-Lincoln, A Division of Outboard Marine Corporation, 5522 Cushman Drive, P.O. Box 82409, Lincoln, NB. 68501.

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Sawdust treatments improve soil

Nurserymen know their soils suffer yearly depletion of organic matter. This occurs due to cultivation, irrigation, additions of mineral fertilizers and, of course, the removal of the entire nursery crop.

Peat, applied at rates up to 150 cubic yards per acre, usually corrects organic matter deficiency in these soils. This correction is essential because soils with a low supply of humus lose nutrients at a high rate due to leaching. Moreover, humus mollifies pest eradication treatments and helps to prevent possible damage to nursery stock and beneficial soil organisms by toxic chemicals.

But peat just isn't always available. So Richard Camp, superintendent of the Wisconsin Wilson State nursery, and Jaya Iyer, lecturer in soil science at the University of Wisconsin, tested sawdust as an alternative soil amendment.

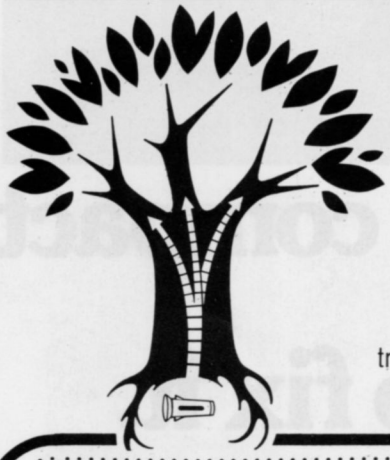
Sawdust as an amendment is not new. It has been used for years to enrich nursery soils in organic matter and increase the soil's exchange capacity and biodegrading potential. But sawdust does not break down as fast as peat, and sawdust composting requires more labor and may cost more than peat applications. So, the researchers felt present nursery practice needed a low cost way to convert sawdust into a good humus amendment. This was accomplished by a treatment of the sawdust directly on nursery beds. They suggested the following procedure.

Apply one inch of sawdust with a manure spreader on top of nursery beds. Treat the sawdust-covered beds with anhydrous ammonia from a tank with four injecting knives set one foot apart. The outside knife should be inserted six inches from the border of the bed and knives should penetrate four inches. This treatment requires three pounds of anhydrous ammonia per cubic yard of sawdust, or four pounds per 100 running feet of seedbeds, and consumes 300 pounds of ammonia at a cost of $35 per acre.

A few days after application of ammonia, the beds are treated with a five percent solution of 55 percent phosphoric acid delivered from a pressure pump sprayer at a rate of 3 gallons per 100 running feet of seedbeds. This treatment applies 40 pounds of elemental phosphorus per acre at a cost of $30.

In soils treated with potent pesticides, such as Mylone, Vapam, and methyl bromide, there may be a deficiency of effective cellulose decomposers, such as inky caps or other mushrooms. To restore these below ground dwellers, it may be desirable to spread on the beds partly decomposed horse manure, fermented compost, or soil treated previously with ammoniated sawdust at a rate of two cubic feet per 100 running feet of seedbeds. Then

Continued on page 42



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New systemic insecticide program — Profit programs for MEDICAP dealers
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CLEVELAND, OHIO, Wed., Jan. 12 Holiday Inn—Cleveland/Independence		
ROCHESTER, N.Y., Thurs., Jan. 13 Hilton Inn on the Campus		
FREMONT, NEBR., Tues., Feb. 8 Holiday Lodge		
ST. LOUIS, MO., Thurs., Feb. 10 Holiday Inn—Riverfront		
MILWAUKEE, WISC., Fri., Feb. 25 Hoffman House, 251 N. Mayfair Rd.		
ELMHURST, ILL., Tues., March 8 Holiday Inn, 624 N. York Rd.		
CHAMPAIGN, ILL., Fri., Feb. 11 Ramada Inn—University		
MOLINE, ILL., Thurs., Feb. 24 Holiday Inn—Airport		
INDIANAPOLIS, IND., Wed., March 9 Sheraton Inn, Pendeton Pike Exit off I-465		

NOTE!!! DEALER ATTENDING, PLEASE COMPLETE BELOW!!!
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Meetings scheduled from 10 A.M. until 2:30 P.M. Lunch will be provided (no charge) for one key employee per firm, additional are welcome. Indicate above, location and number attending from your firm.

Clip above schedule and return at least 10 days prior to meeting as confirmation of your attendance.

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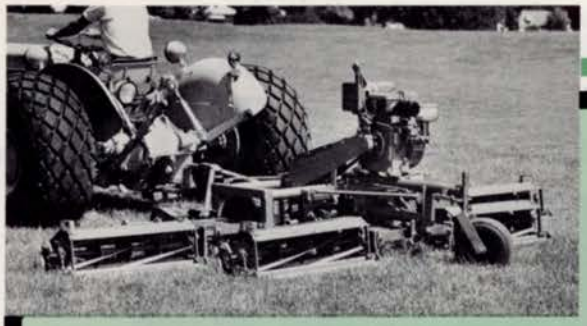

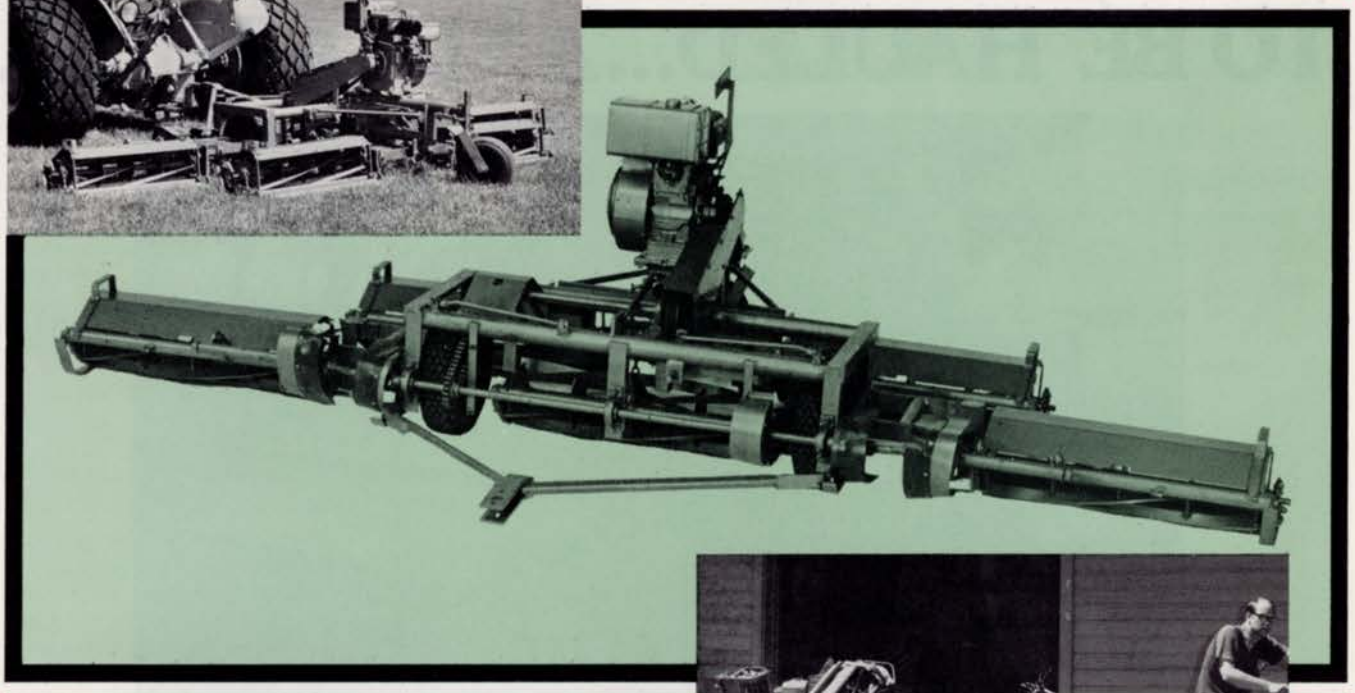

NATIONAL MOWER'S *NEW* Power Quint

Economical to buy, operate and maintain

National Mower's Power Quint is designed to meet the demands of today's economy. It is priced less than any comparable unit. It is a simple, functional machine without unnecessary levers, gadgets and chrome decorations. It is made so as many parts as possible are standard, off-the-shelf items available from the user's local sources.

Power Quint was deliberately designed to provide its own power source. A feature that allows the unit to be pulled by almost any size tractor with or without PTO.

FEATURES:

- ☐ Five, powered, free-floating reels cut an 11½ foot swath without skip or scalping.
- ☐ Wings fold to 68" for easy transport and storage.
- ☐ With no need for outrigger wheels, cutting units reach out over curbs, golf course traps and up to obstruction to eliminate trimming.
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As with all National Mower models, the Power Quint reels are designed to adjust down to fixed bed bars providing for more rigid, longer-lasting mowing units. All bed knives have turned-up lips for extra wear . . . a feature National introduced as early as 1925.

84" TRIPLEX

National's 84" Triplex is one of the best hill-climbing, rough terrain machines made today. Operates as efficiently on an 83 per cent grade as on a level. Its no-nonsense design makes maintenance easier and faster.

68" TRIPLEX

With its low center of gravity and wide track, National's Model 68 maneuvers sharply, climbs banks and hillsides easily and safely. Unit mows a 68-inch swath at speeds up to 4 MPH . . . that's half an acre in 15 minutes. Wings fold to 37½".

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Equip it with either the short dump box or the longer flatbed/dump box and you can haul up to a 1,000 lb. payload. Both boxes mount quickly by simply positioning them on the chassis and inserting three pull-pins. They pivot up and out of the way for routine power train maintenance.

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Equip your Turf-Truckster with PTO and the hydraulic package and you can dump hydraulically without leaving the seat.

However you equip it, your Turf-Truckster is a workhorse vehicle that is built to last. Because at Cushman, we believe product longevity is just as important as product performance.

With other accessories, your Cushman can spray, spike, aerate, and top dress. Use it. It's more than basic transportation. It's a total turf-care system. Write for your catalog today.

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Meeting Dates

Delaware Turfgrass Conference, Clayton Hall, University of Delaware, Newark, Del., Dec. 6.

International Plant Propagators' Society Southern Region Inaugural Meeting, Sheraton Inn, Mobile, Ala., Dec. 7-9.

University of Maryland Corn Technology Conference, Civic Center, Salisbury, Md., Dec. 9.

University of Maryland Agronomy Short Course, National 4-H Center, Chevy Chase, Md., Dec. 13-15.

Connecticut Nurserymen's Association Annual Meeting, Ramada Inn, North Haven, Conn., Dec. 28.

Western Association of Nurserymen Annual Meeting and Trade Show, Hilton Plaza Inn, Kansas City, Mo., Jan. 2-4.

Tennessee Turfgrass Association Annual Conference, Music City Rodeway Inn, Nashville, Jan. 3-4.

Northeastern Weed Science Society 31st Annual Meeting, Baltimore Hilton Hotel, Baltimore, Md., Jan. 4-6.

Mid-Atlantic No-Tillage Conference, Sheraton Inn, Gettysburg, Pa., Jan. 7.

Wholesale Nursery Growers of America Membership Meeting, Hyatt Regency-O'Hare, Rosemont, Ill., Jan. 9.

New York State Arborists Association Annual Convention, Nevele Country Club, Ellenville, Jan. 9-12.

Mid-America Trade Show, O'Hare International Trade and Exposition Center, Rosemont, Ill., Jan. 9-12.

Mid-Atlantic Association of Golf Course Superintendents Annual Conference, Baltimore Hilton, Baltimore, Md., Jan. 10-11.

Landscape Materials Information Service Winter Meeting, The Biltmore, New York, N.Y., Jan. 13.

New Hampshire Turf Seminar, Sheraton-Wayfarer Motor Inn, Bedford, N.H., Jan. 13-14.

Landscape Ontario Congress, Four Seasons Sheraton Hotel, Toronto, Ont., Canada, Jan. 18-20.

International Society of Arboriculture Ohio Chapter Annual Meeting, Sheraton-Columbus Hotel, Columbus, O., Jan. 23-25.

National Tropical Foliage Short Course, Sheraton-Towers Hotel, Orlando, Fla., Jan. 23-26.

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"Maintenance and repair have become the fastest escalating costs in our business. LESCO parts help today. We get quality. We save money."

Jack E. Hart
Golf Course Superintendent
Dayton, Ohio

"When you have a budget to live with, and you can save some money and get quality too, you do it. That's our job, to spend the Club's money wisely. We've used LESCO bedknives and parts 5 years and find the quality excellent. Service is excellent too!"

Robert W. Hope CGCS.
Lockmoor Club
Grosse Point-Woods, Mich.

"We've been using LESCO replacement parts for a number of years, and have been quite satisfied."

Ray Reid
General Manager
Riverside Golf Course
Cleveland, Ohio

THE LESCO GUARANTEE

Give LESCO a try. If you're not satisfied, or the quality is not what you would expect, we will refund your money in full.

If there is not a LESCO representative in your area as yet, write or call us collect at (216) 323-7544.

LESCO PRODUCTS

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People on the Move

M. Joseph Heimes has joined the **Kaiser Trading Co.** as manager in agricultural chemicals and fertilizer trading. He will be located at Kaiser Trading headquarters, Kaiser Center, Oakland, Calif.

Heimes, a graduate of Iowa State University, most recently held the position of general manager in supply and distribution for Terra Chemicals, Sioux City, Iowa.

Bob Willcox and **Jim Earnest** have been named technical representatives for the **ProTurf Division** of O.M. Scott and Sons, according to Frank Kolley, Director of Sales.

Prior to joining the turf products company, Willcox served as golf course superintendent at Royal Poinciana Golf Club in Naples, Fla. Earnest was golf course superintendent at Danville Country Club in Danville, Ky.

Sherman Shaw has been promoted to southern regional sales manager, agricultural business group, **Velsicol Chemical Corp.** He will be responsible for sales of agricultural products in the southern United States stretching from the Virginias, west to New Mexico. Shaw was graduated from Louisiana Polytechnical Institute with a B.S. degree in biology/agronomy.

Research and teaching awards of the Northeastern Branch of the American Society of Agronomy were presented recently to two faculty members in the College of Agriculture at **Pennsylvania State University.**

The research award went to **Dr. John B. Washko,** professor of agronomy. **Dr. Joseph M. Duich,** professor of turfgrass science, received the teaching award. Presentations were made at the annual meeting of the organization at West Virginia University, Morgantown.

Northrup, King & Co., Minneapolis, has announced the appointment of **Jack Welch** as manager of their professional turf products department. A graduate of the University of Rhode Island, Welch has been associated with O. M. Scott & Sons for the past 15 years.

Edsel M. Fussell has been named director of entomological research and services for **Micro-Gen Equipment Corp.,** San Antonio, Tex. In addition he will act as consultant to Micro-Gen distributors and customers to outline programs for the safe and efficient use of Micro-Gen products.

Thomas J. Walsh has been promoted to marketing communications manager at **Thompson-Hayward Chemical Co.** In his new position, Walsh will be responsible for the overall administration and coordination of advertising, sales promotion and public relations. Walsh is a graduate of Notre Dame University.

C. M. Henderson has been elected president of **USS Agri-Chemicals,** a division of U.S. Steel. He is a member of the board of the Fertilizer Institute, a national trade association. A native of Brookneal, Va., Henderson has a B.S. degree from the University of West Virginia.

TRELAN

"Whole Tree Chipper"

Chips trees up to 17" dia. and produces high quality chips at a rate of over 25 ton per hour ----

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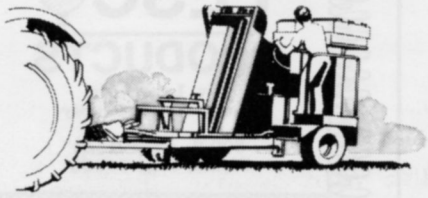

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Robert W. Beaman has been appointed product planning manager for **Massey-Ferguson's** consumer products in North America. In his new capacity, Beamam is responsible for consumer product planning, market forecasts, and marketing programs. Beaman joined the company in 1973 after receiving a degree in marketing from Drake University and has served as an area parts sales manager and district sales manager.

Jim McCreery, vice president of Klumb Co.., Crystal Springs, Miss., was elected president of the **National Bark Producers Association** during its 5th Annual Convention held in Key Biscayne, Fla.

McCreery has been a past chairman of the membership committee and previously served as program coordinator for two of the association's annual conventions.

Northwest Industries Inc. announced that two of its subsidiaries, Velsicol Chemical Corporation and Michigan Chemical Corporation, have agreed in principle to merge, effective Jan. 1, 1977.

Dr. Paul F. Hoffman, president of Michigan Chemical and formerly executive vice president of Velsicol, will become chairman of the board and chief executive officer of the merged company, which will be known as Northwest Chemco, Inc.

Raymond W. VerHoeve, currently executive vice president of Velsicol and formerly vice president of technology and planning for Hooker Chemical Corp., will become president and chief operating officer.

Harriet B. Marple has been appointed the judicial officer of the **Environmental Protection Agency** by Russell E. Train, Administrator of the Agency.

Marple is an honors graduate of Radcliffe College and graduated from Harvard Law School in 1966.

The judicial officer of the EPA serves as the Administrator's adviser in the resolution of judicial and quasi-judicial decisions arising out of EPA's regulatory programs.

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And when sales rebounded, the non-cutters rebounded a lot better than the cutters did.

Sales index of budget-cutters and non-cutters

	1968	1969	1970	1971	1972	1973
Maintained budgets in 1970 & 1971	100	118	123	135	156	200
Cut budgets in both 1970 and 1971	100	111	109	111	122	145

2. Your brand stands out.

A McGraw-Hill survey of their business magazine readership indicates that a company's advertising can affect a company's reputation. Some of the reader comments:

"If I didn't see their ads, I would begin looking for a second source of supply because I'd consider them a dying organization."

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3. Your salesmen stand out.

An article published in the Harvard Business Review ("Industrial Advertising pays off," Harvard Business Review—March-April, 1970) shows that sales costs are reduced when a strong advertising program supports a sales program. The total cost of selling to groups exposed to advertising often *drops* by 10% to 30%.

On the other hand, the non-advertiser stands at a serious disadvantage in a well-advertised market. His cost of selling to groups exposed to his competitors' advertising may actually increase 20% to 40%. This isn't a happy thought in times when you're selling less.

*For a copy of this study entitled "How Advertising in Recession Periods Affects Sales," send $1.00 to American Business Press, 205 East 42 St., New York, 10017.

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Sawdust treatments

Continued from page 34

the soil is rototilled to a depth of about seven inches and sown to rye, soybeans, or other suitable catch crops. The crops are plowed under before they are hardened. Now the soil is ready to reduce the loss of applied fertilizers and the toxicity of eradicants. At the end of the growing season the beds are ready for seeding tree crops or transplanting nursery stock.

This treatment has increased soil organic matter content about one percent (10 to 12 tons/acre on the experimental plots). This increase in the supply of humus will stretch nurserymen's fertilizer dollars, and increase the safety of using pesticides, and improve the quality of the planting stock.

The researchers checked to see what effect the treatment had on soil fertility. They found, using a rye catch crop, that the ammoniated sawdust produced a 300 percent increase in biomass over the adjacent control areas.

The bottom line, or the total cost of the treatment is about $120 per acre. This seems high, but a considerable part of this expense goes in as soil enrichment in nitrogen and phosphorus, something nurserymen must apply anyway. And, considering nursery crops' value of $40,000 to $120,000 per acre, the cost is small.

Occasionally, resistant sawdust, cold temperature or lack of moisture may delay sawdust decomposition and depress the growth of catch crop. However, application of a solution of 250 pounds of ammonium sulfate or 150 pounds of ammonium nitrate per acre will correct the deficiency. □

Reprints of articles are available on request. Write to the editor, WEEDS TREES & TURF, 9800 Detroit Ave., Cleveland, Ohio 44102.

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0217® brand Fylking Kentucky bluegrass, the famous Swedish beauty, stands out because of its many improved qualities. An outstanding feature is fast germination, rapid growth that makes sod lifting possible sooner than other varieties. Superior density of rhizomes and root system makes an almost impenetrable sod that helps strangle weeds, prevents invasion.

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Fylking Kentucky bluegrass seed costs less than most other elite bluegrasses.

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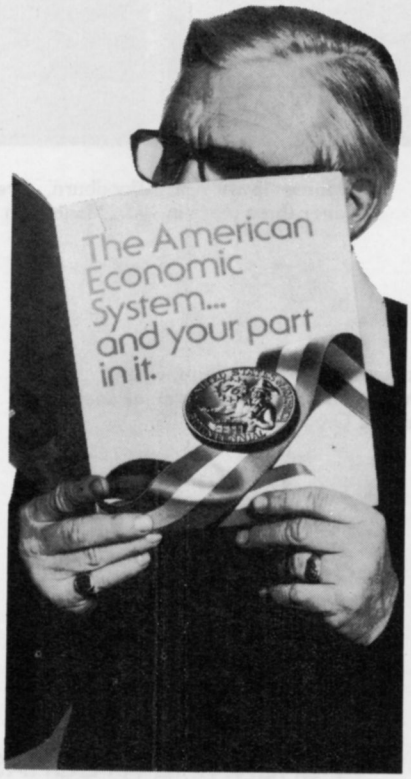

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Products

Massey-Ferguson has expanded its line to include the new MF 1655 garden tractor powered by a two-cylinder, 16 hp, 40.3 cu. in. engine. Standard equipment includes head and tail lights, Timken wheel bearings, 3½ gal. fuel tank, and guage wheel adjustment for mower weight. The MF 1655 offers a 12 volt battery and disc braking on the transaxle to supplement hydrostatic braking within the transmission.

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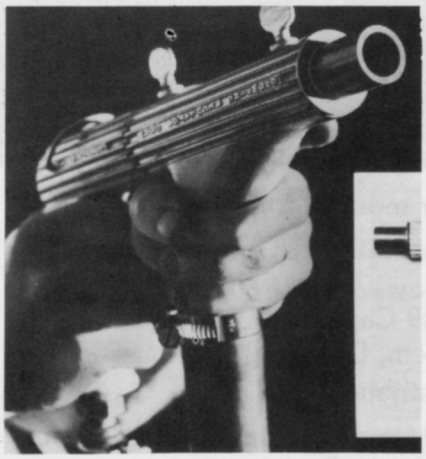

Federal Brass Mfg. announces its new Ferti-Blast gun, designed for easy distribution of granular or pelleted material like fertilizer. The unit uses no water or tank — just a portable air compressor and truck to carry the material. The Ferti-Blast gun can spread material up to 75 feet.

Circle 702 on free information card

SOLO U.S.A. now offers the SOLO 425 Jetpak sprayer with a spray wand weighing only about three ounces and "welded" at the joints with industrial strength resin to increase useful life. The SOLO Jetpak hand-operated unit is the first manual sprayer manufactured without metal or rubber parts to contact chemicals. The spray wand is made of strong glass fiber reinforced resin with either flat or hollow cone nozzles.

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Brandt Enterprises' Cap Cutter simplifies opening of five-gallon drums of chemical by cutting a clean, circular opening in the plastic spout. A hand bar built into the bottom of the cap aids in removing the drum seal, minimizing time, spillage, and physical contact.

Circle 705 on free information card

Champ Corp. has begun production of the CY-50P, a new high flotation, construction model lift truck capable of first-stage lifting of up to 5000 lbs. This new model, which features low-pressure 16.9 x 24 eight-ply drive tires, is intended for rough terrain projects where lower gear ratio and massive tire size are needed. The CY-50P's Ford 256 gas or optional diesel engine is matched to a four-speed Borg-Warner powershift reversing transmission and an 11 in. torque coverter. Standard equipment includes a 25,000 lb. Timken 15-1 ratio planetary drive axle.

Circle 704 on free information card

Heckendorn Mfg. now has an 8 hp stump remover that quickly reduces most stumps to an easily removed pile of fine chips, leaving a clean depression ready for grass plugging. The steel cutter disc is 12 in. by ½ in. with four hardened carbide teeth. Depth of cut on each pass of the disc can be regulated by a hand screw adjustment. The Heckendorn Stump Remover can be mounted using conventional universal supports.

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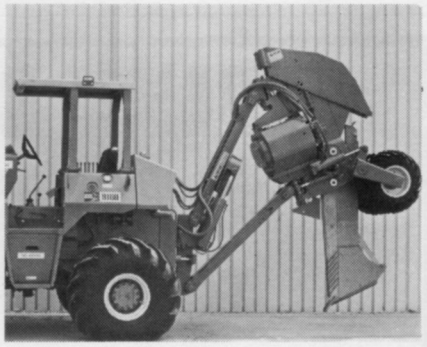

A new heavy duty vibratory plow module, the vp-100, is now available from Ditch Witch for use with the Ditch Witch model R-100 Modularmatic 100 hp class vehicle. Special hydraulic title on frame allows adjustment for vertical plowing and increased stability on slopes.

Circle 707 on free information card

A new belt guide is featured on 1977 model Jr. Sod Cutters under production at Ryan. The guide reportedly is designed to prevent drive belts from slipping off the pulleys and being damaged.

Circle 708 on free information card

Improved grasses is TAES goal

The introduction and management of subtropical grasses and new legumes have been studied by Texas Agricultural Experiment Station and USDA scientists. Better adapted legumes and nitrogen-fixing grasses are sought as a partial solution to the high costs of nitrogen fertilizer. Seeds of more than 1300 types of grasses from South Africa were collected in a USDA-TAES cooperative research project in 1976. They are being used to develop greater winter-hardiness in buffalograss, greater genetic diversity in kleingrass and improved forage quality in lovegrass. A unique breeding system in buffalograss that results in the production of true-breeding hybrids has been applied also in weeping lovegrass and guineagrass.

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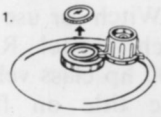

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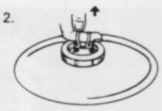

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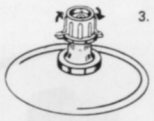

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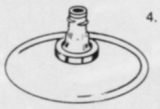

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Now, more than ever... IF YOUR "GAME" IS GRASS...THE NAME IS "ADELPHI"

"ADELPHI" HAS BEEN CHOSEN by the Plant Variety Protection Office, U.S.D.A., AS A STANDARD FOR DARK GREEN COLOR to which all bluegrasses applying for plant protection will be compared for color classification.

(Use of this statement does not indicate any approval or recommendation of Adelphi by the U.S.D.A.)

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J & L ADIKES, Inc.
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Farmingdale, N.J. 07727

NORTHRUP, KING & CO., Inc.
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Canadian Inquiries: **National-NK Seeds Ltd.**, Box 485, Kitchener, Ont. • **Rothwell Seeds Ltd.**, Box 511, Lindsay, Ont.
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When answering ads where box number only is given, please address as follows: Box number, c/o Weeds Trees and Turf, Dorothy Lowe, Box 6951, Cleveland, Ohio 44101.

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Here's the new riding mower that thinks it's a walking mower.

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We're all pretty excited about this brand new mower that mows and trims areas like they were done by hand.

Because of its maneuverability and design, you can move it in close to shrubs and trees for those touchy trimming jobs. Just like a walking model.

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Ask your nearby Jacobsen Distributor about the new 70" Triplex mower. When it comes to mowing and trimming turf areas, it sure beats walking.

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For the name of the distributor near you write: Jacobsen Turf Distributor Directory, 1721 Packard Avenue, Racine, Wisconsin 53403

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Sometimes it's better to hear it from some-one else...

"I use Baron for every acre of bluegrass I grow. Baron gives what you guys call in your advertising. . . a tight-fisted root system. It holds together. . .I can shake it like a rug."

Here's what Berkley Carter of Tuckahoe Turf Farms,* Slocum, R.I. has to say about

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U.S. Dwarf Variety Plant Patent No. 3186

"Of all the bluegrasses, Baron is resistant to more diseases. I've had two different bluegrass fields side by side and Baron always shows more resistance. It holds up its color throughout the season with a minimum of water and fertilizer."

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"And your Jamestown Fescue is great too."

Jamestown is perfect for a bluegrass blend, particularly Baron. It has great eye appeal and when sod is needed for sun and shade areas Jamestown/Baron really go well together.

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There's not much more we can add except that Lofts Pedigreed Seed Company or any authorized distributor is nearby wherever you grow sod.

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*Tuckahoe Turf Farms, growers of 600 acres of cultivated sod, is one of the largest sod farms in New England.

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